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ABSTRACT

The Direct Instructional System for Teaching Arithmetic and Reading (DISTAR), a highly structured, systematic program, was developed to provide instruction to disadvantaged children. This paper cites the opinions of proponents and opponents of the program and notes the results of previous studies of the effectiveness of DISTAR. The paper then reports on a study in which the achievement scores of kindergarten pupils taught by the DISTAR program were compared with scores of kindergarten pupils taught by the Eclectic Readiness Program (ERP). The pupil sample consisted of 255 inner-city Chicago children from a predominantly black, lower socioeconomic level community. Sixty-four pupils, taught in classes of 12 to 15 pupils with the help of teacher aides and auxiliary services, used the DISTAR language, reading, and arithmetic program. One hundred ninety-one pupils, taught in classes of 25 to 30 children with no teacher aides or auxiliary services, used the ERP program, which employed a variety of reading readiness methods. The results of language and mathematics tests administered to pupils at the end of the school year indicated that the ERP children obtained significantly higher achievement scores in reading and mathematics readiness than did the DISTAR pupils. (GW)

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A COMPARATIVE STUDY OF THE EFFECTIVENESS DISTAR AND ECLECTIC READING METHODS FOR INNERCITY CHILDREN

Earl J. Ogletree

Distar (Direct Instructional System for Teaching) was specifically developed to ameliorate the reading problems of inner-city children. The program, developed by Bereiter and Engelmann, is based on the assumption that disadvantaged children lack certain basic language skills, information and behavioral patterns, which prevent them from mastering the process of learning to read. They lack the prerequisites for the realization of their learning potential, rather than the capacity to learn. Distar, according to its developers, with its systematic structured and drilled learning approach, is supposed to raise the I.Q. and reading achievement of inner-city children.

Distar has stirred up a great deal of controversy among educators (14). Its heavy emphasis on programmed learning, drill, repetition and structure "smacks" of the inflexible methodology of Pestalozzi (4). Moskovitz (14) argues that Bereiter's "vigorous-appearing, sensible-sounding cookbook" approach is based on several assumptions:

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1. That the black child's dialect is inferior.
2. That "teaching formally correct language automatically" conditions the child into new language patterns and higher levels of cognition.
3. That standard English can be learned by rote and drill.
4. That a single methodology is suited to all children of various age levels (p. 25).

On the other hand, Riessman (17) Ausubel (3) and others have indicated that disadvantaged children both need and like a structured, concrete approach to learning. Passow describes their learning style as "motoric, concrete," "thing oriented," and "non-verbal" (16:93-94).

The Distar method relies heavily on hand signals and physical commands. Bereiter employed this approach because it replicated the lower socio-economic mother's communication style in the home in which there is little explanation, exploration or expression of feelings. Havighurst explains:

> The (lower socio-economic) mother asserts her authority through categorical statements (and physical commands). She does not really try to explain . . . but orders the child. . . The mother's authority is involved almost at once. . . (11:211).

Distar duplicates this authoritarian, one-way communication format, since it appears to be a part of the child's learning style.

The Distar teacher is programmed as to what to say, what to do, how to signal for responses, and how to handle incorrect responses. Her approach is impersonal. She follows a lesson-by-lesson script verbatim. The teaching materials are uniform. Preparation time is reduced to a minimum. The program has automatically been regarded as perhaps the most useful "foolproof" and authoritative one by those working with disadvantaged children in dire need of an effective reading program. In fact, Bereiter states that, if the Distar child fails to read, the fault lies not with the program, but with the teacher.

The program is intended to deal with all essential reading skills so that children receive as much drill as needed in each skill area, thus insuring their readiness for the more sophisticated reading tasks to come.

Review of Literature

Ogletree and DiPasalegne (15) surveyed twenty-two Chicago inner-city primary teachers who used Distar. The majority of teachers were positive in their views and thought Distar was effective. However, the majority also felt that Distar was too inflexible and many found it necessary to revise and modify the materials, format and methods to fit their needs. The teachers indicated that many of the children were bored and restless with the repetition and drill of the program. On the other hand, teachers saved preparation time and felt confident and comfortable with the program. They made several recommendations for needed changes in Distar:

1. Revise materials every two years.
2. Allow for more flexibility to fit teaching styles
3. Use Distar as an optional or a supplementary reading program, rather than as an exclusive program.

Guinet (9) stated that Distar has been successful with disadvantaged and retarded children with learning disabilities. Gross (8) concluded that Distar enhanced the attention span of children. Williamson (19) indicated that Distar met the needs of children for whom learning to read is especially difficult. She added that Distar pupils were reading at a higher grade level than those in other reading programs.

A study by Bode and Suchaniak (5) was conducted to determine the effects of the Distar Language Program on the group intelligence test performance of 100 inner-city upper elementary grade students. The samples were pre- and post tested using the Kuhlmann-Anderson Intelligence Test. Following the four-month duration of the study, the findings showed that there was a significant mean gain in I.Q. for grades seven and eight. Larson's (13) study also showed significant gains in I.Q. scores by Distar pupils.

Separate studies by Hanchett (10), Knudsen (12), Anderson (1) and Aronson (2) found Distar equal to or a more effective reading program than other methods of teaching pre-school and primary reading. Williamson (19) compared the reading achievement of slow learners in a Distar program in a phonetic - sight reading program. Distar pupils obtained higher (not significantly)

reading scores than pupils in the phonetic program. Rosen (18) found that Chicago inner-city pupils using Distar for three years had higher reading achievement scores than non-Distar pupils.

According to the above reports and studies Distar appears to be an effective program, but not enough research has been done comparing Distar to other methods.

Procedure of Study

To add to the field of knowledge about the effectiveness of Distar, a study was conducted comparing Distar to an Eclectic Readiness Program. The study included 258 Chicago inner-city Kindergarten children, selected on a random basis for each of the programs. There were 64 kindergarten pupils in the Distar program and 191 pupils in the Eclectic Readiness program.

The Chicago inner-city public school included in the study was located in a predominantly lower-socioeconomic black community. The school administration and staff were heavily committed to Distar as an exclusive program for the kindergarten, primary and lower elementary grade levels.

Since Distar has been a major reading program in the school for the past four to five years, the teachers have extensive experience with it. It is only at the kindergarten level that two reading programs (Distar and Eclectic Readiness Program) are used. All other grade levels use Distar exclusively.

Description of the Problem

The Distar sample included five classes of 12-15 pupils each, with one or two teacher aides assigned to each class, plus additional auxillary services. This readiness program includes Distar language and reading development and a Distar mathematics sequence.

The Eclectic Readiness Program sample included seven classes of 25-30 children each, with no special services or teacher-aides. The Eclectic program employed a variety of teaching methods -- phonetic, look-say and kinesthetic.

The experience of teachers as measured by the number of years' service in the two programs was comparable. The length of time spent on reading instruction in each program was equal.

Collection and Tabulation of Data

At the end of the ten-month kindergarten program (1973-74 school year), the children were administered the Test of Basic Experience* (TOBE), Level L in language and mathematics. The data were analyzed to determine the significant difference (.05) between the reading and mathematic means of the two groups, using the t test.

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*TOBE is a set of group tests (language, math, science, social studies) of the richness of concepts and experience, involving no reading, of preschool to first grade children. It includes two levels: K level, ages 4-6 and L level, ages 6-10. The number of factual information items is minimized, while educationally relevant concepts are maximized.

Findings

The findings show that the children in the Eclectic Readiness Program (ERP) obtained significantly higher mean language and mathematics readiness scores than did the Distar pupils, as shown in Tables 1 and 2.

TABLE 1

LANGUAGE SCORES OBTAINED ON THE TOBE BY THE DISTAR AND ERP PUPILS

	MEAN RAW SCORES	S.D.	PERCENTILE	STANINE
DISTAR (N=64)	16.8	3.7	17	3
ERP (W=191)	21.4*	3.9	63	6

*Significant at the .05 level

Table 1 show that in mean raw scores, percentile ranking and stanine placement the Eclectic Readiness Program group did significantly better in language development than the Distar group.

TABLE 2

MATHEMATICS SCORES OBTAINED ON THE TOBE BY

THE DISTAR AND ERP PUPILS

	MEAN RAW SCORES	S.D.	PERCENTILE RANKING	STANINE
DISTAR (N=64)	13.7	3.1	12	3
ERP (N=191)	19.8*	4.7	61	6

*Significant at the .05 level

Table 2 demonstrates, as in Table 1, that the Eclectic Readiness group significantly outscored their DISTAR peers, at the .05 level of confidence in mean mathematics readiness scores.

Discussion

One can conclude on the basis of the results that the Eclectic approach was significantly more effective than the Distar approach. Even though the Eclectic sample (191) was considerably larger than the Distar sample (64), the random selection process substantially reduced any sampling error that might significantly affect the findings. The force of the difference of 4.6 points in mean language scores of the Eclectic and Distar groups resulted in a stanine difference of 3 points in favor of the Eclectic group. The findings do not support the studies and reports showing Distar to be more effective than other reading programs.

It would seem that since Distar was specifically developed for disadvantaged children, and the basic methodology of the program is claimed to be similar to the learning style of inner-city children, the repetitive structured program should have produced better or at least equal results to other reading programs, especially as the staff favored it. The results may reflect a certain incompatibility between the Distar approach and the learning style of young children.

Recent research on the differential function of the two halves of the brain indicates that the left side is for verbal/analytic modes of thinking, while the right side is for spatial-holistic (intuition and understanding) modes of cognition. Galin (7) and others believe that middle class children are likely to use the verbal/analytic mode, whereas urban poor children use the spatial/holistic mode. What results is a dichotomy, "a cultural conflict of cognitive style which may in part explain the difficulties of urban poor children in a school system oriented toward the middle class" (p 19).

It would appear the verbal/analytic approach of the Distar program is incompatible with the cognitive style of inner-city children.

In addition, the state of knowledge about what constitutes an effective intervention or readiness program is severely limited. Cicirelli (6), who reviewed different educational models for the disadvantaged, states:

> . . . we still know little about what constitutes the appropriate environmental treatment, the sequencing of curriculum materials within the treatment, the timing of such treatment, or the kinds of treatments needed for individuals with particular kinds of cognitive (or readiness) deficits (p. 34).

Since we know very little about what constitutes an ideal educational milieu, perhaps an eclectic approach is the closest we can come to an ideal compatibility of program with learner. Perhaps Distar is too simplistic and one-sided in its teaching methodology. Moskovitz (14) states that one faulty assumption undergirding Distar is that teaching methods ". . . suited to one age level of development might be appropriate to a younger level of human development". Not only do children of the same age have their individual and unique learning styles, but the differences between the ways five-and six-year olds learn are also often dramatic.

The difference in adaptability of the Eclectic Readiness Program as compared to that of the rather uniform, rigid and drill approach of the Distar Program may account for the significant difference in the mean language and arithmetic scores of the two groups. Children, as well as adults, learn best that which they are interested in, and that which meets their emotional and intellectual needs. Generally the method of learning, e.g., language, is an eclectic one. A "meaningful variety and frequency of conversational engagement is critical to language development, as opposed to corrective exposure to limited forms (of the language)" (14).

The same reasoning is applicable to the reading process. Reading development like cognitive development "occurs largely in response to a variable rang of stimulation requiring incorporation, accommodation and reconciliation" (3). In other words, the learning style of the child should determine the format of the reading program to be used, rather than the reading program methodology restricting the learning style of the learner.

It is probably for this reason that the Eclectic group was significantly more advanced in reading and arithmetic than their Distar peers. Further comparative experimental research needs to be done.

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